

# ELECTROMYOGRAPHY SYSTEM

## ABSTRACT OF THE DISCLOSURE

A method of determining relative neuro-muscular response onset value thresholds for a plurality of spinal nerves, comprising: depolarizing a portion of the patient's *cauda equina*;  
5 and measuring the current intensity level at which a neuro-muscular response to the depolarization of the *cauda equina* is detected in each of the plurality of spinal nerves.

A method for detecting the presence of a nerve adjacent the distal end of at least one probe, comprising: determining relative neuro-muscular response onset values for a plurality  
10 of spinal nerves; emitting a stimulus pulse from a probe or surgical tool; detecting neuro-muscular responses to the stimulus pulse in each of the plurality of spinal nerves; and concluding that the electrode disposed on the distal end of the at least one probe is positioned adjacent to a first spinal nerve when the neuro-muscular response detected in the first spinal nerve is detected as a current intensity level less than or equal to a corresponding neuro-  
15 muscular response onset value of the first spinal nerve.